

CLAIMS

What is claimed is:

1. A semiconductor package comprising:
a leadframe having a flag and a bond pad;
5 a semiconductor die attached to the flag and electrically coupled to the bond pad;
a mold encapsulant over the semiconductor die;
a conductive layer over the mold encapsulant; and
a wire electrically coupling the leadframe to the conductive layer.
- 10 2. The semiconductor package of claim 1, wherein the conductive layer comprises a ferromagnetic material.
3. The semiconductor package of claim 2, wherein the conductive layer comprises NiFe.
- 15 4. The semiconductor package of claim 1, wherein the conductive layer comprises an element selected from the group consisting of aluminum, copper, tin and zinc.
5. The semiconductor package of claim 1, wherein the conductive layer comprises a ferromagnetic material and a nonferromagnetic metal.
- 20 6. The semiconductor package of claim 1, wherein the wire is coupled to the leadframe through the semiconductor die and wire bonds.
7. The semiconductor package of claim 1, wherein the wire is coupled to the leadframe
25 through a pad.
8. The semiconductor package of claim, wherein the conductive layer is an electromagnetic shield.

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9. A method of forming a semiconductor package, the method comprising:
providing a leadframe, wherein the leadframe comprises:
a first portion comprising a first flag; and
a second portion comprising a second flag;
5 attaching a first semiconductor die to the first flag;
attaching a second semiconductor die to the second flag;
electrically coupling the first semiconductor die to the leadframe;
electrically coupling the second semiconductor die to the leadframe;
electrically coupling the first portion of the leadframe to the second portion of the
10 leadframe using a wire bond;
encapsulating the first semiconductor die and the second semiconductor die with a
mold encapsulant;
cutting the mold encapsulant to cut the wire bond to form a first wire in the first
portion of the leadframe and a second wire in the second portion of the leadframe;
15 forming a conductive layer over the mold encapsulant to electrically couple the first
wire and the second wire to the conductive layer; and
singulating the first portion of the leadframe to form a semiconductor package.
10. The method of claim 9, wherein :
20 cutting the mold encapsulant further comprises forming a groove having sidewalls in
the mold encapsulant, wherein a portion of the first wire and a portion of the
second wire are exposed in the groove; and
forming a conductive layer further comprises forming the conductive layer the
sidewalls of the groove.
- 25 11. The method of claim 10, wherein forming a groove further comprises forming groove
that is substantially triangular in shape.
12. The method of claim 9, wherein forming the conductive layer further comprises forming
30 a material that comprises a ferromagnetic material.
13. The method of claim 12, wherein forming the conductive layer further comprises
forming a material that comprises a nonferrous metal.

14. The method of claim 9, wherein:
electrically coupling the first semiconductor die to the leadframe, further comprises
wire bonding the first semiconductor die to the leadframe; and
electrically coupling the second semiconductor die to the leadframe, further comprises
5 wire bonding the second semiconductor die to the leadframe.
15. The method of claim 9, wherein:
electrically coupling the first portion of the leadframe to the second portion of the
leadframe using a wire bond, further comprises wire bonding a first pad in the first portion of
10 the leadframe to a second pad in the second portion of the leadframe.
16. A method of forming a semiconductor package, the method comprising:
providing a leadframe, wherein the leadframe comprises a pad and a flag;
attaching a semiconductor die to the flag;
15 electrically coupling the semiconductor die to the pad;
providing a wire bond having a first end and a second end;
electrically coupling the first end and the second end of the wire bond to the
semiconductor die;
forming a mold encapsulant over the semiconductor die and the wire bond;
20 exposing a portion of the wire bond; and
forming a conductive layer over the mold encapsulant and the wire bond, wherein the
conductive layer is electrically coupled to the wire bond.
17. The method of claim 16, wherein electrically coupling the first end and the second end of
25 the wire bond to the semiconductor die, further comprises forming a looped wire bond.
18. The method of claim 16, wherein exposing a portion of the wire bond further comprises
removing a portion of the mold encapsulant.
- 30 19. The method of claim 16, wherein electrically coupling the semiconductor die to the pad
further comprises wire bonding the semiconductor die to the pad.

20. A method of forming a semiconductor package, the method comprising:
- providing a leadframe having a flag;
 - attaching a semiconductor die to the flag;
 - forming a mold encapsulant over the semiconductor die;
 - 5 forming a conductive layer over the mold encapsulant; and
 - electrically coupling the leadframe to the conductive layer using a wire.
21. The method of claim 20, wherein:
- electrically coupling the leadframe to the conductive layer using a wire further
 - 10 comprises:
 - providing a wire having a first end and a second end;
 - electrically coupling the first end and the second end of the wire to the
 - semiconductor die; and
 - removing a portion of the mold encapsulant to expose a portion of the wire;
 - 15 and
 - forming a conductive layer over further comprises:
 - electrically coupling the conductive layer to the wire.
22. The method of claim 20, wherein:
- 20 forming a mold encapsulant over the semiconductor die, further comprises forming
 - the mold encapsulant over the wire; and
 - forming a conductive layer over the mold encapsulant further comprises electrically
 - coupling the conductive layer to the wire; and
 - the method further comprises:
 - 25 removing the mold encapsulant to expose the wire.
23. The method of claim 22, wherein removing the mold encapsulant to expose the wire
- further comprises forming a groove in the mold encapsulant, wherein the groove has
- sidewalls.
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24. The method of claim 23, wherein forming the conductive layer further comprises
- forming the conductive layer over the sidewalls of the groove.